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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 09/765,108	Applicant(s) MEDVINSKY, ALEXANDER	
	Examiner CARL COLIN	Art Unit 2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 10-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the Appeal Brief filed on 7/10/2008, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Nasser G Moazzami/

Supervisory Patent Examiner, Art Unit 2136

Response to Arguments

2. In response to the appeal brief filed on 7/10/2008, the following claims 1-7 and 10-23 are pending and are presented for examination.

2.1 Applicant's remarks, filed in the appeal brief on 7/10/2008, pages 5-12 with respect to the rejection of claims 1-7 and 10-23 have been considered but they are not fully persuasive.

Applicant argues that neither Long nor Dent discloses generating a second key stream when a component used to transmit the Real Time Protocol voice packets changes during the communication session as recited in claim 1. Examiner respectfully disagrees. Dent teaches producing new keystream bits (generating new key) when there is handoff (the handoff is due to a change of a component in transmitting the voice packets, see column 3, lines 30-59 and column 4, lines 26-55) that meets the recitation of when a component used to transmit the Real Time Protocol voice packets changes, generate a second key (see column 6, lines 41-58 and column 15, lines 30-44). With respect to applicant's arguments that Long teaches away from Dent, Examiner respectfully disagrees. The prior art mere disclosure of conventional art does not constitute a teaching away because such disclosure does not discredit the conventional art but rather offers a balance depending on design choices (see column 1, lines 42-48). Dent suggests keeping traffic interruption to a minimum (see column 15, lines 20-25). With regard to claims 6 and 13, (see page 9) applicant implies that claim 6 recites the same limitations as claim 1, Examiner asserts that a change in communication parameter does not equate when a component used to transmit the Real Time Protocol voice packets changes. Examiner respectfully disagrees with applicant's arguments as Long discloses generating a second key stream when the counter reaches the specified value, the change in values meets the recitation of a change in communication parameter (see column 4, lines 5-35; column 2, lines 47-63). In addition, Long discloses generating a second key stream according to a key ID that also meets the recitation of a

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change in communication parameter (see column 3, lines 19-29). Applicant has not shown how a change in communication parameter is patentably distinct from Long's disclosure. Without conceding to applicant's argument, claims 6 and 13 are also rejected on the same rationale as claim 1 in order to expedite the prosecution. With regards to claim 19, claim 19 recites means plus function and the structures are disclosed in the combined references. Applicant has not shown claim 19 is patentably distinct from the combined references. With respect to claim 17, the claim merely states generating a second key in response to collision detection, Dent discloses a collision is detected wherein the multimedia terminal adapters have the same source identifier (see column 14, lines 21-49) and further discloses generating a second stream in response to handoff as discussed above with respect to claim 1 (see also column 15, lines 30-44). Dent illustrates detecting a collision and restarting a new session (see column 12, line 23 through column 13, line 16, the failure of synchronization is due to a collision as understood by Examiner). Upon further consideration, a new ground of rejection is made in view of Fruehauf et al in combination with the previously cited art.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: a component used to transmit the Real Time Protocol voice packets changes during the communication session does not have any antecedent basis in the citations provided by applicant (see appeal brief, page 2). A codec is not described in the specification as

a component used to transmit the Real Time Protocol voice packets. On the other hand, the passage cited by applicant states,

"MTA 104 receives the packets with the new CODEC with the new set of keys and may optionally keep the old keys for a short period to receive packets that are still using the old CODEC." (see page 10, lines 13-15).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 17-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 17 recites "In a communication system having a gateway receiving communication sessions from two or more multimedia terminal adapters, a method for securely exchanging..." in lines 1-4. The preamble needs to be revised because as written the claim may be directed to a method or system. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6-7, 10-16, and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,940,508 to **Long et al** in view of US Patent Publication 2002/0006202 to **Fruehauf et al** in view of US Patent 5,081,679 to **Dent**.

As per claim 1, Long et al substantially discloses a system for securely transmitting Real Time Protocol voice packets during a communication session with a remote multimedia terminal adapter over an Internet protocol network; the system comprising: **Long et al** discloses a crypto equipment 10 for receiving the voice packets (see column 2, lines 4-6) the voice packets having a clock counter to synchronize cryptographic operations between encryption equipments 10 and 20 (column 3, lines 19-23) that meets the recitation of *a local multimedia terminal adapter (crypto equipment 10) receiving the voice packets having a timestamp (Clk Counter 30) as a synchronization source to synchronize cryptographic operations between said local multimedia terminal adapter (crypto equipment 10) and said remote multimedia terminal adapter (crypto equipment 20), the local multimedia terminal adapter (crypto equipment 10) comprising, a local key stream generator (key generator 80) for generating a first key stream;* **Long et al** discloses

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an encryptor equipment is operable to encrypt the data using key generated by the key generator (see column 2, lines 4-6; column 2, lines 16-21 and fig.2; see also column 4, lines 53-56) that meets the recitation of *a packet encryptor that encrypts the voice packets using at least a portion of the first key stream to form encrypted voice packets*. **Long et al** discloses equipments 10 and 20 are similar and for simplicity only one direction will be discussed (i.e. the approach for decryption and equipment 20 is implicit or inherent) and further discloses *the remote multimedia terminal adapter (equipment 20) receiving the encrypted voice packets* (see column 2, lines 6-15 and fig. 2), *the remote multimedia terminal adapter further comprising a remote key stream generator (key generator 80) for generating the first key stream in order to decrypt the encrypted voice packets* (see column 1, lines 16-18 and column 2, lines 6-8); decryptor equipment is operable to decrypt the data using key generated (see column 2, lines 6-8; column 2, lines 16-21 and fig. 2; see also column 4, lines 53-56) that meets the recitation of *a packet decryptor decrypting the encrypted voice packets using the first key stream*. **Long et al** discloses a rekeying process wherein both key generators generate a second key when equipment 10 performs a switchover during the communication session and both equipments 10 and 20 use the second key stream (see column 2, lines 47-63 and column 4, lines 12-23). **Long et al** is silent about generating a second key stream when a component used to transmit the Real Time Protocol voice packets changes during the communication session. **Fruehauf et al** in an analogous art discloses eliminating loss of data resulting from out-of-sync key changes (see paragraph 41). **Fruehauf et al** discloses encryptor/decryptors that are used for data transfers (see paragraph 36) and further discloses when a transition from one data decryptor to another data decryptor occurs, the data decryptors have changed keys (see paragraph 42) that meets the

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recitation of *when a component used to transmit the Real Time Protocol voice packets changes during the communication session wherein both key stream generators generate a second key stream*. **Fruehauf et al** discloses both packet encryptors and decryptors use the second key stream (see paragraph 11). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Long et al** to generate a second key stream when a component used to transmit the Real Time Protocol voice packets changes during the communication session because it would eliminate interruptions or loss of data resulting from out-of-sync key changes, delays in the communication media, or loss of data packets that may be in transit during a key transition boundary as suggested by **Fruehauf et al** (see paragraph 41).

Long et al is silent about the data being voice data. It is apparent one of ordinary skill in the art that the invention may be applied to any type of data communication as known in the art including radio communication using voice packets. **Dent** in an analogous art also discloses synchronization using real-time clock and counters operable to synchronize cryptographic operations between a transmitter and a receiver in cellular radio system using voice packets (see column 12, lines 23-51). The equipment may be used for secure communication over digital channel for converting a voice signal into digital signal (see column 8, lines 54-66). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the system of **Long et al** into cellular radio communications so as to securely transmit voice packets using synchronization technique and convert voice packet to digital data stream and vice versa as suggested by **Dent** above.

As per claim 2, the references as combined above disclose the limitation of wherein the second key stream is generated when the system switches from a first to a second coder/decoder for compression/decompression of the voice packets, for example (see **Fruehauf et al**, paragraph 42).

As per claim 3, the references as combined above disclose the limitation of wherein the second key stream is generated when a Message Authentication Code algorithm change occurs, for example (see **Long et al**, column 3, lines 19-23) (see also **Dent**, column 10, lines 14-25).

As per claim 6, **Long et al** substantially discloses a system for communicating Real Time Protocol voice packets between a local and a remote location over an Internet protocol network, the system comprising: *a stream cipher module (10) for encrypting the voice packets*, for example (see column 2, lines 4-6); and *a key stream generator (key generator 80) for generating a first Real Time Protocol key stream* (see column 4, lines 53-56), *the stream cipher module employing the first key stream to encrypt the voice packets for forwarding to the remote location*, (see column 2, lines 4-8; column 2, lines 16-21 and fig.2; see also column 4, lines 53-56). **Long et al** discloses a rekeying process wherein the key generator in equipment 10 generates a second key for encrypting the voice packets when performs a switchover from a first key variable to a second key variable each key variable being involved in the synchronization process of the key (see column 4, lines 5-35; column 2, lines 47-63) that meets the recitation of *the key stream generator producing a second Real Time Protocol key stream for encrypting the voice packets when the system switches from a first communication parameter to a second*

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communication parameter, each of the first and second parameters being involved in the synchronization of the key stream, **Long et al** also discloses the voice packets having a clock counter to synchronize cryptographic operations between encryption equipments 10 and 20 (column 3, lines 19-23) that meets the recitation of *wherein the voice packets having a timestamp as a synchronization source operable to synchronize cryptographic operations between said local and remote locations*. In addition, Long discloses generating a second key stream according to a key ID that also meets the recitation of a change in communication parameter (see column 3, lines 19-29). **Fruehauf et al** in an analogous art discloses eliminating loss of data resulting from out-of-sync key changes (see paragraph 41). **Fruehauf et al** discloses encryptor/decryptors that are used for data transfers (see paragraph 36) and further discloses when a transition from one data decryptor to another data decryptor occurs, the data decryptors have changed keys (see paragraph 42) that meets the recitation of *when a component used to transmit the Real Time Protocol voice packets changes during the communication session wherein both key stream generators generate a second key stream*. **Fruehauf et al** discloses both packet encryptors and decryptors use the second key stream (see paragraph 11). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Long et al** to generate a second key stream when a component used to transmit the Real Time Protocol voice packets changes during the communication session because it would eliminate interruptions or loss of data resulting from out-of-sync key changes, delays in the communication media, or loss of data packets that may be in transit during a key transition boundary as suggested by **Fruehauf et al** (see paragraph 41).

Long et al is silent about the data being voice data. It is apparent one of ordinary skill in the art that the invention may be applied to any type of data communication as known in the art including radio communication using voice packets. **Dent** in an analogous art also discloses using real-time clock and counters operable to synchronize cryptographic operations between a transmitter and a receiver in cellular radio system using voice packets (see column 12, lines 23-51). The equipment may be used for secure communication over digital channel for converting a voice signal into digital signal (see column 8, lines 54-66). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the system of **Long et al** into cellular radio communications so as to securely transmit voice packets using synchronization technique and convert voice packet to digital data stream and vice versa as suggested by **Dent** above.

Claim 6 may also be rejected on the same rationale as claim 1 above.

As per claim 7, the references as combined above disclose the limitation of wherein the first communication parameter is a first coder/decoder that compresses/decompresses the voice packets, and the second communication parameter is a second coder/decoder that compresses/decompresses the voice packets, for example (see **Dent**, column 10, line 56 through column 11, line 19). **Dent** discloses coder/decoder for converting voice packets from analog to digital and digital to analog (see also column 8, lines 54-66). Therefore, claim 7 is rejected on the same rationale as the rejection of claim 6. (See also **Fruehauf et al**, paragraph 42 as rejected in claim 2 above).

As per claim 10, the references as combined above disclose the limitation of further comprising a new time stamp sequence generated when the second Real Time Protocol key stream is generated, for example (see **Long et al**, column 3, lines 12-18 and column 4, lines 25-29).

As per claim 11, **Long et al** discloses the limitation of providing key derivation or a pseudorandom function based on a counter, a known value, and key variable, for example (see column 3, lines 5-23) that meets the recitation of wherein the second key stream is generated by re-executing the following key derivation function: $F(S, \text{"End-End RTP Key Change } \langle N \rangle \text{"})$ where N is a counter incremented whenever a new set of Real Time Protocol keys is re-derived for the same media stream session; $F()$ is a one-way pseudo-random function used for the purpose of key derivation; S is a shared secret which includes a random value shared between the two endpoints and is known only to those two endpoints or a trusted server, and "End-End RTP Key Change $\langle N \rangle$ " is a label that is used as a parameter to the key derivation function $F()$, $\langle N \rangle$ stands for an ASCII representation of a decimal number, representing a counter. Similar algorithm in the claimed invention of f as a function of a secret key and a parameter can be found in cryptography textbook known in the art. (See also **Dent**, column 15, lines 20-50).

Claim 12 is similar to the rejected **claim 11** except for adding a synchronization source identifier, which is known in the art as found in US patents 6,275,471 and 6,122,665. **Long et al** also uses a key identifier that meets the recitation of synchronization source identifier, for

example (see **Long et al**, column 3, lines 5-23). Therefore, **claim 12** is rejected on the same rationale as the rejection as the rejection of **claim 11**.

As per claim 13, Long et al substantially discloses a method for securely transmitting Real Time Protocol voice packets from a local to a remote location via a communication network, the method comprising: *generating a first Real Time Protocol key stream for encrypting the voice packets* (see column 4, lines 53-56), *forwarding encrypted voice packets to the remote location* (see column 2, lines 4-8; column 2, lines 16-21 and fig.2; see also column 4, lines 53-56). **Long et al** discloses a rekeying process wherein the key generator in equipment 10 generates a second key for encrypting the voice packets in response to reach a switchover value which causes a key update for the same media stream during a communication session or in response to any loss of data synchronization or need to provide data re-synchronization (see column 4, lines 5-35; column 2, lines 47-56; and column 2, line 63 through column 3, line 5) that meets the recitation of *generating a second Real Time Protocol key stream for encrypting the voice packets in response to a request to change communication parameters for the same media stream during a communication session*; **Long et al** further discloses *forwarding voice packets encrypted with the second Real Time Protocol key stream to the remote location* (see column 3, lines 19-24 and column 4, lines 47-49); **Long et al** also discloses the voice packets having a clock counter to synchronize cryptographic operations between encryption equipments 10 and 20 (column 3, lines 19-23) that meets the recitation of *wherein the voice packets having a timestamp as a synchronization source operable to synchronize cryptographic operations between said local and remote locations*. **Long et al** is silent about the data being voice data. It is apparent

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one of ordinary skill in the art that the invention may be applied to any type of data communication as known in the art including radio communication using voice packets. **Dent** in an analogous art also discloses synchronization using real-time clock and counters operable to synchronize cryptographic operations between a transmitter and a receiver in cellular radio system using voice packets (see column 12, lines 23-51). The equipment may be used for secure communication over digital channel for converting a voice signal into digital signal (see column 8, lines 54-66). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the system of **Long et al** into cellular radio communications so as to securely transmit voice packets using synchronization technique and convert voice packet to digital data stream and vice versa as suggested by **Dent** above.

As per claim 14, the references as combined above disclose the limitation of further comprising reinitializing a time stamp for synchronizing decryption of the voice packets, for example (see **Dent**, column 15, lines 20-44 and column 12, lines 23-51). Therefore, claim 14 is rejected on the same rationale as the rejection of claim 13.

As per claim 15, the references as combined above disclose the claimed method of claim 13. **Long et al** further discloses the limitation of providing key derivation or a pseudorandom function based on a counter, a known value, and key variable, for example (see column 3, lines 5-23) that meets the recitation of wherein the second key stream is generated by re-executing the following key derivation function: $F(S, \text{"End-End RTP Key Change } \langle N \rangle")$ where N is a counter incremented whenever a new set of Real Time Protocol keys is re-derived for the same media

stream session; $F()$ is a one-way pseudo-random function used for the purpose of key derivation; S is a shared secret which includes a random value shared between the two endpoints and is known only to those two endpoints or a trusted server, and "End-End RTP Key Change $\langle N \rangle$ " is a label that is used as a parameter to the key derivation function $F()$, $\langle N \rangle$ stands for an ASCII representation of a decimal number, representing a counter. Similar algorithm in the claimed invention of f as a function of a secret key and a parameter can be found in cryptography textbook known in the art. (See also **Dent**, column 15, lines 20-50).

Claim 16 is similar to the rejected **claim 15**, except for adding a synchronization source identifier, which is known in the art as found in US patents 6,2754,71 and 6,122,665. **Long et al.** also uses a key identifier that meets the recitation of synchronization source identifier, for example (see **Long et al**, column 3, lines 5-23). Therefore, **claim 16** is rejected on the same rationale as the rejection as the rejection of **claim 15**.

As per claim 19, claim 19 recites similar limitations as claim 1 except for using a means plus function. **Long et al** substantially discloses a system for securely transmitting voice packets during a communication session from a local location to a remote location over an Internet protocol network; the system comprising: *a local key stream generator* (key generator 80, fig. 2) that means the recitation of *a means for generating a first key stream at the local location*; an encryptor equipment that means the recitation of *a means for encrypting the voice packets using at least a portion of the first key stream to form encrypted voice packets* (see column 2, lines 4-6; column 2, lines 16-21 and fig.2; see also column 4, lines 53-56); *a means forwarding voice*

packets encrypted with the second Real Time Protocol key stream to the remote location (see column 3, lines 19-24 and column 4, lines 47-49); a means for generating the first key stream at the remote location for encrypting the voice packets (key generator 80 in equipment 20, fig. 2), and decryptor equipment is operable to decrypt the data using key generated (see column 2, lines 6-8; column 2, lines 16-21 and fig. 2; see also column 4, lines 53-56) that meets the recitation of a means for decrypting the encrypted voice packets using the first key stream. Long et al discloses a rekeying process wherein both key generators generate a second key when equipment 10 performs a switchover during the communication session and both equipments 10 and 20 use the second key stream (see column 2, lines 47-63 and column 4, lines 12-23) that meets the recitation of *wherein both means for generating are capable of generating a second key stream when a component used to transmit the Real Time Protocol voice packets changes during the communication session, Long et al* also discloses the voice packets having a clock counter to synchronize cryptographic operations between encryption equipments 10 and 20 (column 3, lines 19-23) that meets the recitation of *wherein the voice packets having a timestamp as a synchronization source operable to synchronize cryptographic operations between said local and remote locations.*

Claim 19 is also rejected on the same rationale as the rejection of claim 1 above.

As per claim 20, the references as combined above disclose the limitation of wherein the second key stream is generated when the system switches from a first to a second coder/decoder for compression/decompression of the voice packets, for example (see (see **Fruehauf et al**, paragraph 42).

Claims 21 and 22 are similar to the rejected **claims 11 and 12**. Therefore, they are rejected on the same rationale as the rejection of **claims 11 and 12** respectively.

As per claim 23, the references as combined above disclose the limitation of further comprising a means for synchronizing the voice packets, for example (see **Dent**, column 12, lines 23-51).

6. **Claims 4 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Publication US 5,940,508 to **Long et al** in view of US Patent 5,081,679 to **Dent** in view of US Patent Publication 2002/0006202 to **Fruehauf et al** as applied to claim 1 above and further in view of US Patent Publication US 2002/0031126 to **Crichton et al** and Non-Patent Literature “RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals”, May 2000; **RFC 2833**.

As per claims 4 and 5, **Long et al** substantially teaches forwarding/receiving encrypted packets from a local to a remote end, for example (see column 2, lines 4-8). Although **Long et al** is silent about a gateway controller, which is well known in the art of Internet Protocol network for connecting different protocol networks, if it is interpreted as software, the disclosure of **Long et al** meets the claimed limitation. **Crichton et al**, in an analogous art teaches a system for bit synchronous network communications over packet networks including Internet protocol network using gateways in an end-to-end communication path to perform analog to digital

conversion and to communicate with packet network in a manner known in the art, for example (see page 5, paragraphs 0042 and 0047; see also background). The use of gateway is also explicitly cited in RFC 2833 for forwarding encrypted data. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method as combined above to provide a gateway controller as taught by **Crichton et al** or in RFC 2833 (page 1) for forwarding and receiving encrypted packets through an Internet protocol to perform analog to digital conversion and to communicate with packet network in a manner known in the art. This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by **Crichton et al.** so as to perform analog to digital conversion and to communicate with packet network in a manner known in the art.

7. **Claims 17 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,940,508 to **Long et al** in view of US Patent 5,081,679 to **Dent** in view of US Patent Publication US 2002/0031126 to **Crichton et al.**

As per claim 17, Long et al substantially discloses a method comprising *generating a first Real Time Protocol key stream for encrypting the voice packets* (see column 4, lines 53-56), *forwarding encrypted voice packets to the remote location* (see column 2, lines 4-8; column 2, lines 16-21 and fig.2; see also column 4, lines 53-56). **Long et al** discloses a rekeying process wherein the key generator in equipment 10 generates a second key for encrypting the voice packets in response to any loss of data synchronization or need to provide data re-

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synchronization (see column 2, line 63 through column 3, line 5). **Long et al** also discloses *wherein the multimedia terminal adapters have the same source identifier* (see column 3, lines 24-29); **Long et al** further discloses *forwarding voice packets encrypted with the second Real Time Protocol key stream to the remote location* (see column 3, lines 19-24 and column 4, lines 47-49); **Long et al** also discloses the voice packets having a clock counter to synchronize cryptographic operations between encryption equipments 10 and 20 (column 3, lines 19-23) that meets the recitation of *wherein the voice packets having a timestamp as a synchronization source operable to synchronize cryptographic operations between said local and remote locations*.

Long et al is silent about the data being voice data and collision detection. It is apparent to one of ordinary skill in the art that the invention may be applied to any type of data communication as known in the art including radio communication using voice packets. **Dent** in an analogous art also discloses synchronization using real-time clock and counters operable to synchronize cryptographic operations between a transmitter and a receiver in cellular radio system using voice packets (see column 12, line 23 through column 13, line 10). The equipment may be used for secure communication over digital channel for converting a voice signal into digital signal (see column 8, lines 54-66). **Dent** discloses a collision is detected wherein the multimedia terminal adapters have the same source identifier (see column 14, lines 21-49) and further discloses generating a second stream in response to handoff as discussed above with respect to claim 1 (see also column 15, lines 30-44). **Dent** illustrates detecting a collision and restarting a new session (see column 12, line 23 through column 13, line 16, the failure of synchronization is due to a collision as understood by Examiner). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the system of **Long et**

al into cellular radio communications so as to securely transmit voice packets using synchronization technique and convert voice packet to digital data stream and vice versa as suggested by **Dent** above.

Although the term “gateway” is not explicitly cited in **Long et al**, it could be interpreted as a software, which meets the claimed limitation. In addition, Examiner takes official notice that gateway is notoriously well known in network communication for forwarding data and performing network protocol conversion. The use of gateway is explicitly cited in Crichton and in RFC 2833 for forwarding encrypted data. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a gateway for receiving and forwarding data because if it is implemented as a hardware, it would allow control of traffic before the data actually reaches the equipments 10 and 20 and would provide load balancing.

Claim 18 is similar to the rejected **claim 15**, except for adding a synchronization source identifier, which is known in the art as found in US patents 6,2754,71 and 6,122,665. **Long et al.** also uses a key identifier that meets the recitation of synchronization source identifier, for example (see **Long et al**, column 3, lines 5-23).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art discloses many of the claimed features with respect to changing keys when codec changes in order to synchronize encrypted data packets between a transmitter and a receiver (see PTO form 892).

8.1 Any inquiry concerning this communication or earlier communications from the examiner should be directed to CARL COLIN whose telephone number is (571)272-3862. The examiner can normally be reached on Monday through Thursday, 8:00-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser G. Moazzami can be reached on 571-272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Carl Colin/
Primary Examiner, Art Unit 2136
October 2, 2008

/Nasser G Moazzami/
Supervisory Patent Examiner, Art Unit 2136